

Influence of continuous nursing on the survival quality of patients with chronic obstructive pulmonary disease.

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Abstract

Objective: This study aims to explore the influence of continuous nursing on the survival quality and prognosis of patients with Chronic Obstructive Pulmonary Disease (COPD).

Method: A total of 100 patients with COPD from September 2013 to September 2015 were investigated. The Self-rating Depression Scale (SDS) depression questionnaire, Self-rating Anxiety Scale (SAS) anxiety questionnaire and SGRO life quality scale were used.

Results: The SDS and SAS scores of the experimental group 41.3 ± 3.6 and 37.5 ± 7.4 , respectively were significantly lower $P < 0.05$ than those of the control group 53.5 ± 4.7 and 51.3 ± 5.6 , respectively. In addition, the SGRO total score of the experimental group 33.5 ± 12.6 was significantly lower ($P < 0.05$) than that of the control group 57.5 ± 13.6 . Furthermore, the symptoms, limitation of motion, and disease impact in the experimental group were significantly lower ($P < 0.05$) than those in the control group. The PEF of the experimental group $7.94 \pm 0.46 \text{ mL}\cdot\text{s}^{-1}$ was significantly higher ($P < 0.05$) than that of the control group $7.50 \pm 0.68 \text{ mL}\cdot\text{s}^{-1}$. In addition, the FEV1 and FEF25-75 of the experimental group were significantly higher ($P < 0.05$) than those of the control group.

Conclusion: Continuous nursing can improve the survival quality and alleviate the negative emotions of patients with COPD.

Keywords: Survival quality, Continuous nursing, Chronic obstructive pulmonary disease, Influence.

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Introduction

Chronic Obstructive Pulmonary Disease (COPD) is a common chronic respiratory disease. In general, patients with COPD initially receive treatment in the community or at home but become hospitalized in case of acute exacerbation [1]. COPD may damage the respiratory function, cause complications, and affect the normal life of patients. Continuous nursing refers to the nursing care achieved after discharge through continuous cooperation of multiple parties, including different departments of the hospital [2,3]. This intervention also includes the follow-up visit and guidance of nursing staff. In the present study, 100 patients with COPD who visited our department from September 2013 to September 2015 were enrolled as research participants. This study aimed to investigate the influence of continuous nursing on the life of patients with COPD.

Materials and Method

Clinical materials

One hundred stable patients with COPD who were discharged from our hospital from September 2013 to September 2015

were randomly divided into the control and experimental groups (n=50 each). The control group had 28 male patients and 22 female patients, with ages ranging from 63 to 82, and the average age was 71.3 ± 9.5 ; the course of disease was 12.8 ± 5.6 y and the smoking amount was 35.2 ± 9.1 packet/year. The experimental group had 27 male patients and 23 female patients, with ages ranging from 61 to 85, and the average age was 71.4 ± 8.9 . The course of disease was 13.1 ± 6.0 y and the smoking amount was 35.1 ± 8.7 packet/year. Patients who met the moderate and severe COPD diagnostic criteria at stable stage specified by The Chronic Obstructive Pulmonary Disease Diagnosis and Treatment Guideline (Chinese Medical Association, 2007) were included in this study. These patients can basically take care of themselves and attend to telephone follow-ups. The general data of the patients in the two groups had no statistical significance ($P > 0.05$).

Methods

Control group: Patients in the control group received routine nursing care. After being hospitalized, nurses should timely explain and demonstrate the basic actions, such as coughing,

expectoration, and respiratory muscle training, as well as enable patients to be aware of the problems that should be paid attention to. After discharge, nurses should carry out 1-month follow-up visits to know their health condition.

Experimental group: Patients in the experimental group received continuous nursing care. The continuity of nursing was reflected by the fact that the implementer participated in COPD continuous nursing training course within 6 months and accepted the double test of theory and practice. This course includes the following contents: (1) Continuous nursing plan: Patients should pass all-round nursing assessment before discharge, and nurses provide health guidance to help patients understand and consciously implement the community and home rehabilitation training plan; (2) Telephone follow-ups and home visits should be paid to patients 2 days, 2 weeks, 4 weeks, 6 weeks, and 8 weeks after discharge, and detailed records should be prepared. The follow-up visits cover six aspects: COPD signs, symptoms, emerging psychosocial status, home rehabilitation training, health behavior, and environment; (3) Psychological counselling: Through the evaluation and analysis of patients' psychological status obtained by telephone follow-ups and home visits every 2 weeks, according to the actual situation of patients, psychologists can be reached to provide depressed patients with psychological consultation and remove negative emotion; (4) Home visits: 3-month telephone visits and home visits will be implemented after 3 weeks to evaluate and guide the patients' living environment, remind patients to keep indoor ventilation, quit smoking, and control room temperature at a comfortable level; provide health guidance on the site, teach patients how to correctly use oxygen therapy machine and drug inhalation device; understand the main symptoms through telephone follow-ups, improve home nursing and treatment compliance, and provide enough psychological support to patients and their families.

Effect evaluation

Self-rating depression scale: The Self-rating Depression Scale (SDS) consists of 20 sub-divided items, with a total score of 80. This scale mainly includes body disorder, depression and mental disorder, psychomotor disorder and mental emotional symptoms.

Self-rating anxiety scale: The Self-Rating Anxiety Scale (SAS) includes 20 items, with a total score of 80. This scale focuses on assessing the feelings of anxiety patients.

SGRO life quality scale: The life quality core questionnaire is divided into three sub-scales (i.e., symptom, limitation of motion, and disease impact), with a total score of 100. "Exerting no influence on life" corresponds to the minimum score 0, whereas "exerting great influence on life" corresponds to the score of 100.

Statistical method

Statistical software (version SPSS26.0) is used for data analysis, measurement data are represented by ($\bar{x} \pm S$),

comparison between groups is based on the t-test, counting data are tested by χ^2 and $P < 0.05$ indicates significant difference.

Results

Comparison of negative emotions of patients in the two groups

The SDS and SAS scores of the experimental group were significantly lower than those of the control group ($P < 0.05$ and Table 1).

Table 1. Comparison of negative emotions of patients in the two groups ($\bar{x} \pm S$).

Group	SDS		SAS	
	Before nursing	After nursing	Before nursing	After nursing
Control group (50 patients)	54.7 ± 5.8	53.5 ± 4.7	52.8 ± 6.5	51.3 ± 5.6
Experimental group (50 patients)	54.7 ± 6.3	41.3 ± 3.6 ^{a,b}	53.0 ± 6.2	37.5 ± 7.4 ^{a,b}
T	0.013	1.56	0.021	1.67
P	>0.05	<0.05	>0.05	<0.05

Note: Compared with pre-nursing, ^a $P < 0.05$; Compared with the control group, ^b $P < 0.05$.

Survey results about the SGRO score of two groups of patients

The SGRO total score of the experimental group 33.5 ± 12.6 was significantly lower ($P < 0.05$) than that of the control group 57.5 ± 13.6 . The symptoms, limitation of motion, and disease impact of the experimental group were significantly lower ($P < 0.05$) than those of the control group (Table 2).

Comparison of lung function changes of patients in two groups after nursing

The PEF in the experimental group $7.94 \pm 0.46 \text{ mL}\cdot\text{s}^{-1}$ was significantly higher ($P < 0.05$) than that in the control group $7.50 \pm 0.68 \text{ mL}\cdot\text{s}^{-1}$. In addition, the FEV1 and FEF25-75 in the experimental group were significantly higher ($P < 0.05$) than those in the control group (Table 3).

Table 2. Survey results about the SGRO score of two groups of patients ($\bar{x} \pm S$).

Group	Symptom	Limitation of motion	Disease impact	Total score
Control group (50 patients)	59.7 ± 17.5	71.3 ± 19.0	49.4 ± 16.7	57.5 ± 13.6
Experimental group (50 patients)	29.5 ± 15.2 [*]	47.4 ± 16.5 [*]	27.6 ± 14.3 [*]	33.5 ± 12.6 [*]
T	2.34	2.15	2.38	1.87

P	<0.05	<0.05	<0.05	<0.05
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Note: Compared with the control group, *P<0.05.

Table 3. Comparison of lung function index changes of patients in two groups after nursing ($\bar{x} \pm S$).

Group	PEF/ml.s ⁻¹	FEV1/ml	FEF25-75/ml.s ⁻¹
Experimental group (n=50)	7.94 ± 0.46	0.59 ± 0.04	7.24 ± 0.55
Control group (n=50)	7.50 ± 0.68	0.50 ± 0.02	6.73 ± 0.70
T	1.695	6.364	1.812
P	<0.05	<0.05	<0.05

Discussion

COPD, the most common disease of the respiratory system, is characterized by a long course of irreversible airflow limitation. This disease can cause the disorder of chronic obstructive pulmonary ventilation perfusion ratio and a large number of alveolar capillary network, eventually leading to the situation where patients with hypoxia and carbon dioxide retention have secondary pulmonary hypertension, seriously affecting the life quality of patients [5]. In recent years, the survival period of patients has been extended with the rapid development of modern medicine, advanced diagnosis, and treatment technologies. Extended nursing means that the continuous nursing for hospitalized patients should be guaranteed outside the hospital. Continuous nursing is usually adopted to remove the threat of premature birth and treat elderly patients with chronic diseases and organ transplantation [6,7]. Continuous nursing is effective in reducing readmission rate and medical expenses. COPD is a chronic disease with an incidence rate of more than 9% among patients aged above 40 in Beijing and Guangzhou. Patients with COPD have a low life quality. Patients who are hospitalized in the acute phase or receive disease control after discharge have poor treatment compliance during follow-up visit and discharge [8]. The outbreak leads to the vicious cycle of “infection-recrudescence-reinfection,” worsens the disease, and greatly reduces the life quality of patients [9].

For patients who receive continuous nursing, we should consider their individual differences, develop a scientific nursing plan and reasonable nursing program, track the nursing process through telephone call and home visits, improve the continuity of treatment at home, and improve their life quality [10]. In this study, patients in the experimental group received continuous nursing, and patients with COPD received all-round nursing assessment and health guidance before discharge. Nurses explained the rehabilitation training program in the community and family, as well as carried out telephone follow-ups after discharge and kept records. Nurses also provided psychological counselling, as well as evaluated and analyzed the psychological status of patients. Finally, a comprehensive analysis of results obtained from telephone follow-ups and family visits were realized to treat corresponding symptoms and improve family nursing and treatment compliance. This

study compared the SDS and SAS scores of the patients in the experimental and control groups. The SDS and SAS scores of the experimental group 41.3 ± 3.6 and 37.5 ± 7.4, respectively were significantly lower (P<0.05) than those of the control group 53.5 ± 4.7 and 51.3 ± 5.6, respectively. In addition, the SGRO total score of the experimental group 33.5 ± 12.6 was significantly lower (P<0.05) than that of the control group 57.5 ± 13.6. Furthermore, the symptoms, limitation of motion, and disease impact in the experimental group were significantly lower (P<0.05) than those in the control group. Furthermore, the symptoms, limitation of motion, and disease impact in the experimental group were significantly lower (P<0.05) than those in the control group. The PEF of the experimental group 7.94 ± 0.46 mL.s⁻¹ was significantly higher (P<0.05) than that of the control group 7.50 ± 0.68 mL.s⁻¹. In addition, the FEV1 and FEF25-75 of the experimental group were significantly higher (P<0.05) than those of the control group. In continuous nursing, telephone follow-ups and home visits can help patients alleviate negative emotions and ensure the continuity of treatment. The ultimate goal is to improve the life quality of patients through effective treatment.

Conclusion

Continuous nursing can reduce the negative emotions and improve life quality of patients with COPD. Thus, this intervention deserves to be popularized in the clinic field.

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